AB0255

RISK OF FRAGILITY FRACTURE IN A COHORT OF PATIENTS WITH RHEUMATOID ARTHRITIS.

J. Malave Calzada¹, I. Braña Abascal¹, S. M. Rojas Herrera¹, R. Veroz Gonzalez¹, M. Priego Fernandez-Martos¹, D. Fernandez Lozano¹, M. D. C. Carrasco Cubero², J. J. Aznar Sanchez¹, L. M. Chaves Chaparro¹, E. Chamizo Carmona¹. ¹Rheumatology, Hospital de Mérida, Mérida, Spain; ²Rheumatology, Hospital de Badajoz, Badajoz, Spain

Background: Rheumatoid Arthritis (RA) is associated with low bone density and high risk fracture compared to general population.

Objectives: The aim of this study is to assess the effect of some variables on fragility fractures in patients with RA.

Methods: We perform an observational study in a cohort of patients diagnosed of RA according to 1987 and 2010 ACR criteria, to determine the frequency of osteoporotic fractures and associated clinical and densitometric variables. All patients diagnosed of RA were invited to participate in the study between 2013 and 2019, and to perform BMD DXA (GELunarProdigy®). SPSS25 was used to compare variables between patients with fracture and without fracture.

Results: 376 patients with RA were included (78,7% women), mean age 63,3 (±13,2) years old and a mean of evolution of the RA of 118,7(±96,7) months at the moment the BMD was performed. We found bone fracture in 47 (12,6%) patients. Fractures were associated to female gender (OR: 2,93 (1,08-7,93); p=0,02), lower height and weight (p<0,05) and older age (p=0,007).

Table 1 shows the characteristics and differences between patients with and without fragility fractures. Women presented high risk of osteoporosis in lumbar spine [OR=3,89(1,46-10,37); p=0,002] than men, but any differences between gender were found in BMD of femoral neck. Of the fractured patients, BMD T-score was normal in 2 (4,3%), <-1 in 45 (95,7%) and <-2,5 en 25 (54,3%). In the multivariate analysis, the values of T score <-1 and <-2.5 of the hip were associated with fragility fracture, but not the value of T-score in lumbar spine. The risk of fracture decreases 0.008 with each mg/cm² that increases BMD. The use of corticosteroids was associated with the development of femoral osteopenia [OR 2.04 (1.3-3.2); p = 0.002] but not with an increased risk of fractures. No significant association was found between fractures and the presence of RF, ACPAs, smoking, or treatment with biological therapy.

Table 1.

Characteristics	Patients with fractures (n=47)	Patients without fractures (n=327)	OR (IC 95%); p value
Females	43 (14,7%)	250 (85,3%)	2,9 (1,1-7,8); p=0,02
Age	67,7 (±10,6)	62,7 (±11,6)	P=0,005
Height	152,4 (±9,4)	157,3 (±8,8)	P=0,001
Weight	66,2 (±16)	73,3 (±14,4)	P=0,003
Smokers	8 (12,1%)	58 (87,9%)	0,9 (0,4-2,1) p=0,89
RF (+)	35 (12,2%)	252 (87,8%)	0,9 (0,4-1,7) p=0,66
ACPA+	30 (12,3%)	213 (87,7%)	1,3 (0,6-2,8) p=0,44
Steroids	36 (14,4%)	214 (85,6%)	1,7 (0,8-3,5) p=0,13
Biologics treatment	16 (16,2%)	83 (83,8%)	1,5 (0,8-2,9) p=0,22
Bone mineral density (BMD) in lumbar spine<-1	34 (16,8)	168 (83,2)	2,6 (1,3-5,2) p=0,006
BMD femoral neck CF<-1	43 (17,8)	198 (82,2)	9,0 (2,7-29,6) p<0,001
BMD lumbar spine<-2.5	17 (26,6)	47 (73,4)	3,4 (1,7-6,7) p<0,001
BMD femoral neck<-2.5	20 (29,4)	48 (70,6)	4,4 (2,3-8,5) p<0,001
Major osteoporotic risk (FRAX)	37 (23,6)	120 (76,4)	7,4 (3,2-17,2) p<0,001
Hip fracture risk (FRAX)	34 (24,5)	105 (75,5)	5,9 (2,8-12,5) p<0,001

Conclusion: Women with RA present higher risk of fracture than men. The most sensitive indicator for fracture risk seems to be MBD in femoral neck.

Disclosure of Interests: None declared

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AB0256

INCREASED SERUM PROCALCITONIN CONCENTRATION IN PATIENTS WITH RHEUMATOID ARTHRITIS FREE OF ACTIVE INFECTION

K. J. Ng^{1,2}, K. Y. Huang^{1,2}, C. H. Tung^{1,2}, M. C. Lu^{1,2}, N. S. Lai^{1,2}. ¹Division of Allergy, Immunology and Rheumatology, Dalin Tzu Chi Hospital, Chiayi, Taiwan, Republic of China; ²School of Medicine, Tzu Chi University, Hualien, Taiwan, Republic of China

Background: Rheumatoid arthritis (RA) is the most common inflammatory arthritis, affecting 0.5-1% of the general population worldwide. Patients with RA are often in a relatively immunocompromised status. Previous study have

evaluated procalcitonin (PCT) application among autoimmune and autoinflammatory diseases for the diagnosis of systemic bacterial infection (1, 2) To date, the correlation of baseline PCT levels and RA disease activities, different treatment, or the expression of proinflammatory cytokines in patients with RA remained unknown.

Objectives: To investigate the baseline PCT levels among patients with RA without active infection compared with healthy controls and to understand the relationship of PCT with RA disease activity, treatment received by patients, and the expression of proinflammatory cytokines.

Methods: Patients aged 20 years and above, with clinician-confirmed diagnosis of RA were included during regular outpatient visits. RA disease activity was measured using the DAS28-ESR.

Results: A total of 623 patients with RA and 40 healthy subjects were recruited in this study. The mean PCT were significantly higher in patients with RA ($6.90 \pm 11.81 \times 10^{-3}$ ng/mL) compared with healthy controls ($1.14 \pm 3.26 \times 10^{-3}$ ng/mL) ($p = 0.002$). After adjusted for age and sex, the PCT levels remain significantly associated in patients with RA ($p = 0.001$). PCT was not significantly correlated with biologic agent, age, sex, disease duration, disease activity, C-reactive protein, conventional synthetic disease-modifying antirheumatic drugs (csDMARD), and comorbidities. Multiple linear regression analysis showed that PCT was inversely associated with the expression of IL-1 β ($B = -0.883$; CI 95% $-1.388, -0.378$, $p = 0.001$) and IFN- α ($B = -1.197$; CI 95% $-2.153, -0.242$, $p = 0.014$) after adjusted for age and sex.

Conclusion: Patients with RA have significantly higher baseline PCT compared with healthy controls. The treatment received by patients with RA did not affect the level of PCT. Further investigation is required to determine the optimal cutoff value of PCT among patients with RA before applying it in daily clinical practice.

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AB0257

ASSESSMENT OF PHYSICAL DYSFUNCTION IN PATIENTS WITH RHEUMATOID ARTHRITIS WHO PLANNED PREGNANCY FROM THE IORRA COHORT.

M. Ochiai¹, E. Tanaka¹, E. Inoue^{1,2}, M. Abe¹, E. Sugano¹, N. Sugitani¹, K. Saka¹, H. Yoko¹, R. Yamaguchi¹, N. Sugimoto¹, I. Katsunori³, A. Nakajima^{1,4}, A. Taniguchi¹, H. Yamanaka^{1,5}, M. Harigai¹. ¹Department of Rheumatology, Tokyo Women's Medical University School of Medicine, Tokyo, Japan; ²Division of Medical Informatics, St. Marianna University School of Medicine, Kanagawa, Japan; ³Department of Orthopedic Surgery, Tokyo Women's Medical University School of Medicine, Tokyo, Japan; ⁴Center for Rheumatic Diseases, Mie University Hospital, Mie, Japan; ⁵Rheumatology, Sanno Medical Center, Tokyo, Japan

Background: It has been reported that female rheumatoid arthritis (RA) patients have a longer time to pregnancy than healthy women (1), and that high Disease Activity Score with 28 joint count (DAS28) -CRP in preconception increases the frequency of infertility (2). Before the era of biologics, RA treatment tended to be inadequate from pregnancy planning to the end of lactation. And it was not uncommon for female RA patients to be unable to get pregnant or develop physical dysfunction as a result of insufficient control of the disease. There are some reports of disease activity during pregnancy and postpartum in RA patients, and the effects of RA disease activity on pregnancy and childbirth outcomes (3-5), but there are few reports focusing on the physical function during pregnancy planning of RA patients.

Objectives: To investigate disease activity and physical function in female patients with RA who planned and didn't plan pregnancy.

Methods: The IORRA cohort is a large, single institute-based, observational cohort of RA patients established at the Institute of Rheumatology, Tokyo Women's Medical University, in 2000. We identified female RA patients aged 20-49 years who answered 'pregnant' or 'delivered' in the IORRA survey in 2010-2015 and whose pregnancy and the pregnancy planning time was confirmed in the medical records, and defined them as the pregnancy planning (PP) group. Matched control was extracted at 1:3 ratio from patients without pregnancy plan based on entry time, age, RA disease duration, DAS28-CRP, Japanese version of Health Assessment Questionnaire (J-HAQ) score, and comorbidities. The primary endpoint was J-HAQ at 3years from the baseline,

which was defined as the most recent IORRA survey before planning pregnancy. The mixed-effect model for repeated measures was used to analyze group difference.

Results: There were 40 patients in the PP group (average 32.2 years, disease duration 5.7 years, DAS28-CRP 1.7, J-HAQ 0.26), and 120 patients in the control group (average 32.4 years, disease duration 5.9 years, DAS28-CRP 1.7, J-HAQ 0.21). The proportion of user and dosage of MTX and glucocorticoid (GC) and bDMARDs user at baseline were comparable between the groups (MTX: PP 87.5% [9.8 mg/week], control 85.0% [8.8 mg/week]; GC: PP 32.5% [3.6 mg/day], control 27.5% [4.4 mg/day]; bDMARDs: PP 40.0%, control 27.5%). DAS28-CRP at year 3 of the PP group elevated and was higher than the control group (PP 2.3, control 1.7, $p < 0.01$), while J-HAQ was stable over the observation period and did not differ significantly at year 3 (PP 0.21, control 0.22, $p = 0.92$). At year 3, the proportion of patients taking MTX was lower and taking GC was higher in the PP group than those in the control group (MTX: PP 36.7%, control 76.7%, $p < 0.01$; GC: PP 70.0%, control 25.6%, $p < 0.01$). The proportion of patients taking bDMARDs was not different in both groups (PP 36.7%, control 32.6%, $p = 0.68$).

Conclusion: Physical function in pregnancy planning patients with RA did not deteriorate as well as the control patients in clinical settings.

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AB0258

CAROTID INTIMA-MEDIA THICKNESS AND SERUM BIOMARKERS IN PARAGUAYAN PATIENTS WITH RHEUMATOID ARTHRITIS

V. Valinotti¹, A. Paats¹, R. Acosta¹, L. Roman¹, I. Acosta-Colman¹, M. Duarte², O. Centurion², T. Martinez³, P. De Abreu⁴, G. Avila¹, S. Cabrera-Villaalba¹.
¹Clinicas Hospital, Universidad Nacional de Asuncion, Rheumatology, Asunción, Paraguay; ²Hospital de Clinicas, Universidad Nacional de Asuncion, Cardiovascular Medicine, Asunción, Paraguay; ³Laboratorio Curie, Asuncion, Paraguay; ⁴Sociedad Paraguaya de Reumatología, Asunción, Paraguay

Background: The mechanism of increased cardiovascular risk in RA is not well understood and is independent of traditional CV risk factors. Intima-media thickness of the common carotid wall measured by ultrasonogram is a safe and useful biomarker of early stage atherosclerosis that correlates with coronary involvement; and it correlates with severity and duration of disease. Several studies have shown a relationship between inflammation markers, endothelial dysfunction markers, and carotid involvement. (1)

Objectives: To determine the presence of inflammation biomarkers and its relationship with subclinical atherosclerosis measured by carotid ultrasound, and with the clinical characteristics in patients with established Rheumatoid Arthritis (RA)

Methods: Descriptive, cross sectional, prospective study, in a Paraguayan cohort of patients with RA meeting ACR/EULAR2010 criteria. This study had two phases: the first one, included a standardized questionnaire according to the variables included in the Cardiovascular Risk project (PINV15-0346), from the National Sciences and Technology Council (CONACYT), and physical examination; the second one included laboratory sample collection performed by a specialized laboratory for serum biomarkers measurement for cardiovascular risk prediction (i.e endothelin, alpha-TNF, E-selectin, homocysteine, apolipoprotein, fibrinogen, and high sensitivity-CRP levels) and carotid ultrasound evaluation by a trained specialist, to evaluate subclinical atherosclerosis. Subclinical atherosclerosis was defined as carotid intima-media thickness (CIMT) >0.9mm and/or presence of carotid plaques. All patients signed informed consent. SPSS 23rd version was used for data analysis. Quantitative variables were presented as means and qualitative as frequencies. Chi square test was performed for comparisons between dichotomous variables and t Student for continuous, and $p \leq 0.05$ for statistical significance.

Results: 100 patients were included, 87% were women, mean disease duration 130.9±102.64 months, 77% were RF positive, and 84.4% were ACPA positive, 43.4% had bone erosions, mean ESR-DAS28 was 3,42±1,1; 30% had remission criteria. 39% had extra-articular manifestations.

Elevated serum biomarkers were found: fibrinogen >400 mg/dL 88.2%, high sensitivity-CRP (hs-CRP) >5 mg/dL 42.9%, endothelin >2 ng/mL 20%, alpha-TNF >15.6 pg/mL 13.1%, E-selectin >79.2 ng/mL 6%. 25.3% had CIMT >0.9 mm and mean CIMT was 0.68±0.25 mm. 27.14% had carotid plaques. Patients with CIMT >1 mm had higher frequency of family history of arterial hypertension ($p = 0.006$), greater mean disease duration ($p = 0.0007$), hip circumference ($p = 0.014$), blood pressure (SBP $p = 0.038$, DBP $p = 0.027$), HAQ levels ($p = 0.019$) and hs-CRP levels ($p = 0.013$), also lower mean height ($p = 0.04$); while carotid plaques were related to higher homocysteine ($p = 0.026$) and hs-CRP levels ($p = 0.024$).

Conclusion: A considerable percentage of patients had subclinical atherosclerosis. Patients with CIMT >0.9 mm had a longer disease duration, higher HAQ levels, hip circumference, as well as higher BP. High levels of hs-CRP were more frequently related to the presence of subclinical atherosclerosis

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AB0259

THE RELATIONSHIP BETWEEN MICROVASCULAR DAMAGE AND DISEASE ACTIVITY IN PATIENT WITH RHEUMATOID ARTHRITIS – ASSESSMENT BY VIDEOCAPILAROSCOPY

M. Parvu¹, A. Cozos², A. I. Biro¹, H. V. Popoviciu¹. ¹George Emil Palade" University of Medicine, Pharmacy, Science and Technology, Emergency County Hospital Targu Mures, Rheumatology and Physiotherapy, Tg. Mures, Romania; ²Emergency County Hospital, Targu Mures, Rheumatology, Tg. Mures, Romania

Background: Rheumatoid arthritis (RA) is an autoimmune disease characterized by erosive synovitis (causing severe joint damage) and systemic damage.